

Use and Operation

Power

To turn on your Bullard T3 Thermal Imager, simply depress and release the large, dark gray power button under the LCD display (Figure 2). Upon pressing the power button the thermal imager will display the Bullard logo and initiate a calibration sequence. The thermal image will appear in approximately 5 seconds (approximately 8 seconds for the T3MAX). To turn off power, depress and release the power button again.

EI (Electronic Integration) Mode

The Bullard T3 is equipped with an automatic gain control (AGC) that manages the sensitivity of the unit ensuring optimal image resolution in intense energy situations. When the AGC engages to accommodate high heat scenes, the letters EI appear on the screen indicating that the unit has shifted into Electronic Integration or EI mode. This is an indication that the T3 has scanned an object that it has calculated to be at least 200°F (93°C).

NOTE

You will periodically observe a momentary freeze in the image. This is normal and is a function of the self-calibration shutter. The shutter will activate every 30 seconds to three minutes, depending on the environment. The shutter will also activate each time the T3 goes into, and out of, EI Mode.

Relative Heat Indicator™ (RHI) (T3LT and T3MAX Models Only)

T3LT and T3MAX models are equipped with temperature measurement capability. The right side of the display will show a bar graph or Relative Heat Indicator (RHI). The RHI will indicate the approximate temperature of the object viewed within the "crosshairs" shown in the middle of the screen. The accuracy of the indicators is dependent on numerous factors including the distance from the object being viewed and its emissivity, which is the object's ability to radiate heat. Units are calibrated with a preset emissivity corresponding with normal construction materials. Objects with emissivities that vary greatly from this, such as metals and shiny objects, will reduce the accuracy of the temperature indication. Additionally, temperature measurement accuracy decreases as the distance from the object in the "crosshairs" increases.

NOTE

The RHI provides a quick reference to compare objects of similar emissivities to serve as a guide to pinpoint intense heat sources. Due to the inherent problems with accuracy, use this feature with caution and verify indicated heat levels through traditional means whenever possible.

Red Hot™ Feature (T3MAX Model Only)

The T3MAX features Red Hot high heat colorization. When viewing a scene of intense heat, extremely hot objects will appear as red on the screen. Those objects that the T3MAX calculates to be approximately 1100°F (593°C) or hotter will be colored red. The Red Hot feature provides an enhanced visual awareness of the hottest objects in a scene.

NOTE

The Red Hot feature (T3MAX Model Only) will only activate when the unit is in EI mode.

Using the Battery Charger

The battery should be charged in the battery charger using either the AC or DC adapter provided (Figure 3). To charge the battery, simply insert the battery into the charger so that the metal connectors on the battery are aligned with the metal connectors in the charger. A red light will illuminate on the charger to indicate that the battery is charging. When the light on the charger turns to green, your battery is fully charged. You may leave the battery in the charger indefinitely as the battery will not overcharge. For maximum battery life and performance, you should remove the battery from the charger and discharge it completely on a monthly basis.

Loading/Unloading the Battery

Loading and unloading the battery on the Bullard T3 is easy (Figure 4). To install a battery, slide the battery into the groove on the bottom of the unit and ensure that the battery is properly seated. To remove a battery, depress both battery locking buttons simultaneously and slide the battery out of the unit. Since it can only be loaded one way, the battery is easily replaced in the dark. Additionally, as with all batteries, your Bullard rechargeable battery will experience a slow drain of its charge during storage. The amount of drain varies widely based on storage conditions. For best performance, charge each of your batteries every week.

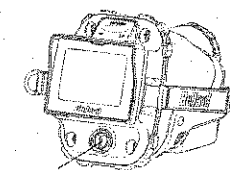
NOTE

Fully charged NiMH batteries will provide a run time of 2½ hours. This run time will be less in extreme heat or extreme cold conditions and/or if the transmitter is in use.

Bullard provides an optional AA Alkaline battery case which can be used as an alternative to the standard 10 V NiMH rechargeable batteries. The AA alkaline battery case requires eight AA alkaline batteries. Once the batteries are installed, the case loads into the unit in the same manner as the standard NiMH battery. Due to the unique way that alkaline batteries disperse power to the unit, the LED indicators will report battery levels that are not necessarily indicative of the battery's actual remaining charge. Fully charged AA Alkaline batteries will typically operate a Bullard T3 for 2 hours. Do not insert the AA Alkaline battery case into any Bullard T3 battery chargers, including the Powerhouse.

WARNING

The Bullard T3 Thermal Imager is not certified as intrinsically safe. Thermal Imaging is not a technology designed to replace current fire fighting tactics. Rather, it is a tool that allows the firefighter to be more effective and to make better decisions. Failure to observe these warnings could result in death or serious injury.



Power Button

Figure 2

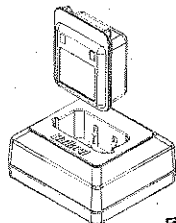


Figure 3

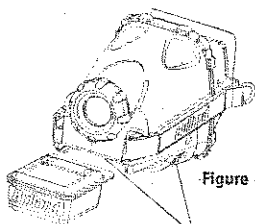


Figure 4

Battery Locking Buttons

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CAUTION

Always monitor LED levels as average run times will vary depending on environmental conditions, battery condition, and whether a transmitter is in use. A 15V 2A AC Adapter is supplied with the unit for powering the battery charger. When using AC power, do not substitute an adapter with a different specification. Failure to observe this instruction may result in equipment and/or property damage.

Strap Assemblies

Side Straps

The side straps are designed to be field replaceable. Users can order replacements and install them without having to return the thermal imager to the factory.

Removing/Installing the Side Straps

To remove either of the right or left side straps, loosen the strap and pull it through the strap loop located on either side of the LCD display (Figure 5). Remove the screw that holds the strap to the imager. To install, fasten the strap to the unit using the screw provided. Do not overtighten. Feed the strap through the strap loop and adjust to the desired length.

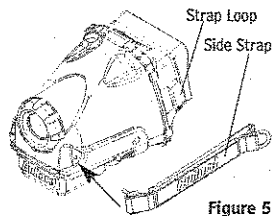


Figure 5

Adjusting the Side Straps

To adjust a side strap, loosen the hook and loop and set to the desired length.

Combination Strap

The combination strap (Figure 6) can be used either as a wrist strap to keep the imager from falling if it should slip from your hand, or as a gear strap, hooked directly onto your turnout gear or SCBA. As a wrist strap, the adjustable strap fits over the sleeve of your turnout gear and can adjust to any size wrist. The strap can be easily attached to either D-ring located on the thermal imager. As a gear strap, the strap can be attached to a D-ring on your turnout gear or SCBA and to a D-ring on the thermal imager. A quick release buckle serves as a safety release mechanism in case the thermal imager ever becomes lodged inhibiting movement. Simply depress the buckle and the thermal imager releases from the strap.



Figure 6

Care Instructions

The Bullard T3 Thermal Imager requires little maintenance. For best results, after each use:

- Clean the outside of the unit with mild soap or detergent.
- Wipe the lens with a soft cloth.
- Clean the display with a soft cloth.
- Check screw tightness on side straps and cover display
- Store your Bullard T3 in the optional truck mount or in the delivery case provided.

CAUTION

Do not use solvents or paint thinners to clean your Bullard T3 Thermal Imager as they could permanently mar the surface or degrade the properties of the outer shell. Failure to observe this instruction may result in equipment damage.

Care should be taken to ensure that the unit is not damaged in any way including loose or missing gaskets, cracks in the housing, or loose or missing screws. If any damage to non-field replaceable items is apparent, follow the procedures outlined in the service section of this manual and return the unit immediately to Bullard for service. Continued use of a damaged unit may void the warranty.

The Bullard T3 has a high tolerance for very cold temperatures. However, the unit should not be stored in sub-freezing environments. Failure to observe this instruction may result in temporary equipment malfunction until the unit warms to a normal operating temperature.

Cleaning the Lens

The Bullard T3 lens is recessed in an impact resistant bezel. The lens can be cleaned with a soft cloth and soapy water as required.

Replacing the Video Display Cover Window

The display cover (Figure 7) has a scratch resistant hard coating to minimize marring. However, if heavy scratching or gouging does occur, the cover window can be replaced. To do this, simply remove the four screws along the top and bottom of the window. Remove the plastic display cover window and replace with a new one (part number T3WINDOW) making sure that the countersink slots around the mounting holes are facing outward. Do not overtighten.

Service

If your Bullard Thermal Imager is not performing properly, please contact Bullard Technical Support at 877-BULLARD (285-5273). Outside the US & Canada, call 1-859-234-6611. Describe the problem to the Bullard representative as completely as possible. For your convenience, your representative will try to help you correct the problem over the phone. Before returning your Bullard T3 Thermal Imager, you should:

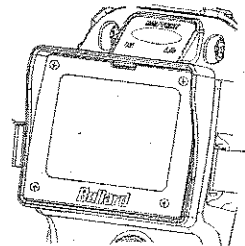


Figure 7

1. Verify with your representative that the product should be returned to Bullard. The Bullard Technical Support/Service Center will provide you with written permission and a return authorization number.
2. Decontaminate and clean your Thermal Imager to remove any hazardous or contaminated materials that may have settled on the product during use. Laws and/or shipping regulations prohibit the shipment of hazardous or contaminated materials. Products suspected of contamination will be professionally decontaminated at the customer's expense.
3. Ship returned products, including those under warranty, with all transportation charges pre-paid. Bullard cannot accept returned goods on a freight-collect basis.

Returned products will be inspected upon return to the Bullard facility. If the repair is under warranty, Bullard will repair the unit and ship it from our factory within 48 business hours.

If the return is a non-warranty repair, a Bullard Technical Support Representative or your local distributor will contact you with notification that an estimate has been prepared. Your local distributor will provide you with a repair invoice estimate. To authorize repair, you must provide a purchase order to your distributor for the amount of the estimate. Once Bullard receives authorization from your local distributor, Bullard will repair the unit and ship it from our factory within 48 business hours. If the cost of repairs exceeds the stated quote by more than 15% or by more than \$100, a Bullard representative will reestimate your repair and your local distributor will contact you for authorization to complete repairs. After repairs are completed and the goods have been returned to you, your distributor will invoice you for the actual repair amount.

NOTE

Do not attempt to disassemble the sealed case of your Bullard T3 Thermal Imager. If the unit is not functioning properly, return it to Bullard (as described in the Service section) for evaluation. **Disassembling the unit voids all warranties.**



Head
Protection

Respiratory
Protection

Fire and Rescue
Safety

Thermal
Imaging

Warranty

Bullard warrants to the original purchaser that the Bullard T3 LT and MAX and all features/accessories installed in the unit are free of defects in materials and workmanship under intended use and service for a period of one (1) year from date of manufacture. The Bullard T3L is warranted for six (6) months. Bullard's obligation under this warranty is limited to repairing or replacing, at Bullard's option, articles that are returned within the warranty period and that, after examination, are shown to Bullard's satisfaction to be defective, subject to the following limitations:

- Article must be returned to Bullard with shipping charges prepaid.
- Article must not be altered from its original configuration.
- Article must not have been misused, abused, or damaged in transport.
- Maintenance and field replaceable items, if defective, are covered under warranty for a ninety (90) day period. These items include:
 - Batteries
 - Straps
 - Battery chargers
 - Display covers
 - AC/DC adapters
 - All accessories except transmitter

Bullard provides a limited lifetime warranty on the T3 outer shell. This warrants that the outer shell is free of defects in materials and workmanship under intended use and service for the original purchaser. Bullard's obligation under this warranty is limited to repairing or replacing, at Bullard's option, articles that after examination are shown to Bullard's satisfaction to be defective, subject to the following limitations:

Ordering Information

| CATALOG NUMBER | DESCRIPTION |
|----------------|---|
| T3L | Bullard T3L Thermal Imager (includes Bullard Thermal Imager, one 10 V NiMH rechargeable battery, 10 V charger with 110 VAC (USA only) and 12 VDC adapters) |
| T3LT | Bullard T3LT Thermal Imager (includes Bullard Thermal Imager, two 10 V NiMH rechargeable batteries, 10 V charger with 110 VAC (USA only) and 12 VDC adapters, combination strap, multimedia orientation CD, and delivery case) |
| T3MAX | Bullard T3MAX Thermal Imager (includes Bullard Thermal Imager, two 10 V NiMH rechargeable batteries, 10 V charger with 110 VAC (USA only) and 12 VDC adapters, combination strap, multimedia orientation CD, and delivery case) |
| T3TRANS | Four-channel wireless remote transmitter (housed in quick-attach handle), antenna, receiver, cable, 110 VAC (USA only) and 12 VDC adapters |
| T3TRANS2 | Two-channel wireless remote transmitter (housed in quick-attach handle), antenna, receiver, cable, 110 VAC (USA only) and 12 VDC adapters |
| T3TRANSCOM | Four-channel wireless remote transmitter (housed in quick-attach handle) with NTSC format TV/VCR (internally mounted receiver), 110 VAC (USA only) and 12 VDC adapters, antenna, and all necessary cables |
| T3TRANSCOM2 | Two-channel wireless remote transmitter (housed in quick-attach handle) with NTSC format TV/VCR (internally mounted receiver), 110 VAC (USA only) and 12 VDC adapters, antenna, and all necessary cables |
| T3TRANSONLY | Four-channel wireless remote transmitter (housed in quick-attach handle) - receiving system not included |
| T3TRANSONLY2 | Two-channel wireless remote transmitter (housed in quick attach handle) - receiving system not included |
| T3COM | Combination NTSC format TV/VCR with built in four-channel receiver for simpler operation; package includes TV/VCR (110 VAC (USA only) and 12 VDC), built in receiver, antenna, and all necessary cables |

- Article must be returned to Bullard with shipping charges prepaid.
- Article must not be altered from its original configuration.
- Article must not have been misused, abused, or damaged in transport.
- When the outer shell is obsolete and Bullard no longer stocks the part, the limited lifetime warranty will be terminated.

In no event shall Bullard be responsible for damages, loss of use, or other indirect, incidental, consequential or special costs, expenses or damages incurred by the purchaser, notwithstanding that Bullard has been advised of the possibility of such damages.

Any implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to one (1) year from the date of manufacture of this product (six (6) months for the Bullard T3L).

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Extended Warranty

The extended warranty has all the same terms and conditions as the one-year warranty, except it is for a period totaling two years (standard one-year warranty plus one additional year). This warranty can be purchased through any authorized Bullard distributor.

| CATALOG NUMBER | DESCRIPTION |
|-----------------|--|
| T3COM2 | Combination NTSC format TV/VCR with built in two-channel receiver for simpler operation; package includes TV/VCR (110 VAC (USA only) and 12 VDC), built in receiver, antenna, and all necessary cables |
| T3REC | Four-channel receiver system (includes the antenna, receiver, and all associated cabling necessary for receiving transmitted video signal) |
| T3REC2 | Two-channel receiver system (includes the antenna, receiver, and all associated cabling necessary for receiving transmitted video signal) |
| T3NIMH | 10 V NiMH rechargeable battery |
| T3ALK | AA Alkaline Battery Case |
| T3COMBOSTRAP | Combination wrist and gear strap |
| T3STRAPKIT | T3 replacement strap kit includes left and right side straps |
| T3WINDOW | Replacement hard coated polycarbonate display cover |
| T3CHARGER | Charger for NiMH rechargeable batteries |
| T3POWERHOUSE | Truck mounted Direct Charge System; this system includes: vehicle mount, built-in battery charger, direct-wiring kit, and attachment hardware |
| T3POWERHOUSEKIT | Kit for Powerhouse truck charger that enables free standing use with either AC or DC power supplies |
| T3HANDLE | Quick-attach handle |
| T3CASE | Heavy-duty hard case to house the Bullard T3 and components |
| T3RETRACT | Retractable strap kit that keeps the T3 convenient yet out of the way |
| T3PM | Preventative maintenance factory service package to keep your T3 performing and looking like new |
| T3PMKIT | Field Service kit for "wear and tear" items for your T3 in a convenient bundled package - includes display cover window, side straps, and one battery |
| T3EXT | Original limited warranty extended one full year |

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Relative Heat Indicator, T3, T3L, T3LT, and T3MAX are
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